

	B	C	D	E
13	Input Name	Default	Inputs	Name
14				
205	0-5	\$25.00	\$25.00	distcondinv1
206	5-200	\$25.00	\$25.00	distcondinv2
207	200-650	\$25.00	\$25.00	distcondinv3
208	650-850	\$25.00	\$25.00	distcondinv4
209	850-2550	\$45.00	\$45.00	distcondinv5
210	2550+	\$70.00	\$70.00	distcondinv6
211				
212	Pole spacing, feet	150	150	distpolespace
213	Pole investment	\$450	\$450	distpoleinv
214	Conduit investment per foot	\$1.00	\$1.00	distcondinv
215	Manhole investment, per manhole	\$3,000		distmanhinv
216	Buried cable armoring multiplier	1.1	1.1	distarmormult
217				
218	<b>Copper Feeder Structure Inputs</b>			
219				
220	<i>Aerial Fraction</i>			
221	0-5	0.5		cufeedaerial1
222	5-200	0.5		cufeedaerial2
223	200-650	0.5		cufeedaerial3
224	650-850	0.4		cufeedaerial4
225	850-2550	0.1		cufeedaerial5
226	2550+	0.05		cufeedaerial6
227				
228	<i>Buried Fraction</i>			
229	0-5	0.45		cufeedbur1
230	5-200	0.45		cufeedbur2
231	200-650	0.45		cufeedbur3
232	650-850	0.4		cufeedbur4
233	850-2550	0.1		cufeedbur5
234	2550+	0.05		cufeedbur6
235				
236	<i>Underground Fraction</i>			
237	0-5	0.05		cufeedug1
238	5-200	0.05		cufeedug2
239	200-650	0.05		cufeedug3
240	650-850	0.2		cufeedug4
241	850-2550	0.8		cufeedug5
242	2550+	0.9		cufeedug6
243				
244	<i>Buried Installation/foot</i>			
245	0-5	\$2.00	\$2.00	cufeedburinv1
246	5-200	\$2.00	\$2.00	cufeedburinv2
247	200-650	\$2.00	\$2.00	cufeedburinv3
248	650-850	\$3.00	\$3.00	cufeedburinv4
249	850-2550	\$3.00	\$3.00	cufeedburinv5
250	2550+	\$25.00	\$25.00	cufeedburinv6
251				
252	<i>Conduit Installation/foot</i>			
253	0-5	\$25.00	\$25.00	cufeedcondinv1

User Inputs

	B	C	D	E
13	Input Name	Default	Inputs	Name
14				
254	5-200	\$25.00	\$25.00	cufeedcondinv2
255	200-650	\$25.00	\$25.00	cufeedcondinv3
256	650-850	\$25.00	\$25.00	cufeedcondinv4
257	850-2550	\$45.00	\$45.00	cufeedcondinv5
258	2550+	\$75.00	\$75.00	cufeedcondinv6
259				
260	Manhole Spacing, ft.			
261	0-5	800		cufeedman1
262	5-200	800		cufeedman2
263	200-650	800		cufeedman3
264	650-850	800		cufeedman4
265	850-2550	800		cufeedman5
266	2550+	400	400	cufeedman6
267				
268	Pole spacing, feet	150	150	ufeedpolespace
269	Pole investment	\$450	\$450	cufeedpoleinv
270	Conduit investment per foot	\$1.00	\$1.00	cufeedcondinv
271	Manhole investment, per manhole	\$3,000		cufeedmanhin
272	Buried cable armoring multiplier	1.1	1.1	ufeedarmormult
273				
274	Fiber Feeder Structure Inputs			
275				
276	Aerial Fraction			
277	0-5	0.35		fibfeedaerial1
278	5-200	0.35		fibfeedaerial2
279	200-650	0.35		fibfeedaerial3
280	650-850	0.2		fibfeedaerial4
281	850-2550	0.1		fibfeedaerial5
282	2550+	0.05		fibfeedaerial6
283				
284	Buried Fraction			
285	0-5	0.6		fibfeedbur1
286	5-200	0.6		fibfeedbur2
287	200-650	0.6		fibfeedbur3
288	650-850	0.6		fibfeedbur4
289	850-2550	0.1		fibfeedbur5
290	2550+	0.05		fibfeedbur6
291				
292	Underground Fraction			
293	0-5	0.05		fibfeedug1
294	5-200	0.05		fibfeedug2
295	200-650	0.05		fibfeedug3
296	650-850	0.2		fibfeedug4
297	850-2550	0.8		fibfeedug5
298	2550+	0.9		fibfeedug6
299				
300	Buried Installation/foot			
301	0-5	\$2.00	\$2.00	fibfeedburinv1
302	5-200	\$2.00	\$2.00	fibfeedburinv2

User Inputs

	B	C	D	E
13	Input Name	Default	Inputs	Name
14				
303	200-650	\$2.00	\$2.00	fibfeedburinv3
304	650-850	\$3.00	\$3.00	fibfeedburinv4
305	850-2550	\$3.00	\$3.00	fibfeedburinv5
306	2550+	\$20.00	\$20.00	fibfeedburinv6
307				
308	<i>Conduit Installation/foot</i>			
309	0-5	\$25.00	\$25.00	fibfeedcondinv1
310	5-200	\$25.00	\$25.00	fibfeedcondinv2
311	200-650	\$25.00	\$25.00	fibfeedcondinv3
312	650-850	\$25.00	\$25.00	fibfeedcondinv4
313	850-2550	\$45.00	\$45.00	fibfeedcondinv5
314	2550+	\$70.00	\$70.00	fibfeedcondinv6
315				
316	<i>Manhole Spacing, ft.</i>			
317	0-5	2,000		fibfeedman1
318	5-200	2,000		fibfeedman2
319	200-650	2,000		fibfeedman3
320	650-850	2,000		fibfeedman4
321	850-2550	2,000		fibfeedman5
322	2550+	2,000		fibfeedman6
323				
324	Buried cable armoring per foot, fiber	\$0.20	\$0.20	ibfeedarmormult
325				
326	<b>Misc Loop Investment Inputs</b>			
327				
328	Drop investment per line	\$40.00		dropinv
329	NID investment per line	\$30.00		NIDInv
330	Terminal and splice per line	\$35.00		SpliceInv
331	Average lines per business location	4	4	BusLinesLoc
332	Feeder structure fraction shared w/ interof	0.25	0.25	FeedShare
333				
334	<i>Distribution structure % assigned to telephone</i>			
335	aerial	0.33		AirDistTel
336	buried	0.33		BurDistTel
337	underground	0.33		UgDistTel
338				
339	<i>Feeder structure % assigned to telephone</i>			
340	aerial	0.33		AirFeedTel
341	buried	0.33		BurFeedTel
342	underground	0.33		UgFeedTel
343				
344	<i>SAI Investment, installed</i>			
345	<i>Distribution cable size</i>	copper feeder		
346	0	\$500.00		cuSAI1
347	100	\$700.00		cuSAI2
348	200	\$900.00		cuSAI3
349	400	\$1,100.00		cuSAI4
350	600	\$1,300.00		cuSAI5
351	900	\$1,500.00		cuSAI6

	B	C	D	E
13	Input Name	Default	Inputs	Name
14				
352	1200	\$1,700.00		cuSAI7
353	1800	\$1,900.00		cuSAI8
354	2400	\$2,100.00		cuSAI9
355	3000	\$2,300.00		cuSAI10
356	3600	\$2,500.00		cuSAI11
357				
358	Distribution cable size	fiber feeder		
359	0	\$2,500.00		fibSAI1
360	100	\$2,700.00		fibSAI2
361	200	\$2,900.00		fibSAI3
362	400	\$3,100.00		fibSAI4
363	600	\$3,300.00		fibSAI5
364	900	\$3,500.00		fibSAI6
365	1200	\$3,700.00		fibSAI7
366	1800	\$3,900.00		fibSAI8
367	2400	\$4,100.00		fibSAI9
368	3000	\$4,300.00		fibSAI10
369	3600	\$4,500.00		fibSAI11
370				
371	Digital Loop Carrier Inputs			
372				
373	SLC (TR-303)			
374	site, housing, and power per remote termi	\$3,000.00		SLChouse
375	maximum lines	672	672	SLCmaxlines
376	remote terminal fill factor	0.9	0.9	SLCfill
377	common equipment investment	\$42,000.00		SLCcomm
378	channel unit investment per line	\$75.00		SLCchan
379	DS-0s per fiber	\$2,016.00	\$2,016.00	
380	Fibers per remote terminal	4	4	
381				
382	AFC			
383	site, housing, and power per remote termi	\$2,500.00		AFChouse
384	maximum lines	100		AFCmaxlines
385	remote terminal fill factor	0.9		AFCfill
386	common equipment investment	\$10,000.00		AFCcomm
387	channel unit investment per line	\$150.00		AFCchan
388	DS-0s per fiber	2,016		
389	Fibers per remote terminal	4	4	
390				
391	Fiber feeder distance threshold, ft. (feeder	9,000		
392				
393	Signaling Parameters			
394				
395	STP Link Capacity	720		STPcap
396	STP Maximum Fill	0.8	0.8	STPfill
397	STP Investment, per pair, fully equipped	\$5,000,000.00		STPInv
398	STP common equipment investment, per	\$1,000,000.00		STPcomm
399	Link Termination, both ends	\$900.00		LinkTerm
400	Signaling Link Bit Rate	56000	56000	LinkRate

	B	C	D	E
13	Input Name	Default	Inputs	Name
14				
401	Link Occupancy	0.4		LinkOcc
402	C Link Cross-Section	24		LinkCross
403	ISUP messages per interoffice BHCA	6		ISUPmsgs
404	ISUP message length, bytes	25	25	ISUPlen
405	TCAP messages per transaction	2	2	TCAPmsgs
406	TCAP message length, bytes	100	100	TCAPlen
407	Fraction of BHCA requiring TCAP	0.1		TCAPFrac
408	SCP investment per transaction per second	\$20,000.00		SCPInv
409				
410				
411	Misc Inputs			
412				
413	Operator position parameters			
414	Investment per position	\$3,500.00		opinv
415	Maximum utilization per position, CCS	27		opccs
416	Operator intervention factor	10	10	opint
417	Operator position remote distance, mi.	0		opdist
418				
419	Other			
420	DS0/DS1 crossover	24		DS0cross
421	DS1/DS3 crossover	28		DS1cross
422				
423	Public Telephone investment per station	\$1,200.00		PubInv
424				
425	Transport Investment			
426				
427	Terminal Investment			
428	Number of Fibers	24	24	termfib
429	FOT capacity, DS-3s	12	12	FOTcap
430	FOT fill	0.8	0.8	FOTfill
431	FOT, installed	\$43,000.00	\$43,000.00	FOTinst
432	Pigtails	\$60.00	\$60.00	pigs
433	Panel	\$1,000.00	\$1,000.00	panel
434	EF&I, per hour	\$55.00	\$55.00	efi
435	EF&I units	32	32	EFIU
436				
437	Medium Investment			
438	Fraction of structure assigned to telephone	0.33		telfrac
439	Fraction of structure shared with feeder	0.25	0.25	feedfrac
440	Distance, mi.	41	41	dist
441	Regenerator spacing, mi.	40	40	regensp
442	Regenerator investment, installed	\$15,000.00	\$15,000.00	regeninv
443	Fiber Cable investment per foot	\$2.00	\$2.00	fibinv
444	Placement	\$2.00	\$2.00	fibplace
445	Splice Spacing, ft.	20000	20000	splicesp
446	Splice Cost	\$15.00	\$15.00	splice
447	Trenching per foot	\$45.00	\$45.00	trench
448	Resurfacing per foot	\$10.00	\$10.00	resurf
449	Conduit per foot	\$4.00	\$4.00	condft

User Inputs

	B	C	D	E
13	Input Name	Default	Inputs	Name
14				
450	Number of tubes	2	2	tubes
451	Manhole investment	\$5,000.00		manhinv
452	Manhole spacing	1000		manhsp
453	Buried installation per foot	\$5.00	\$5.00	burinst
454	Pole investment	450	450	poleinv
455	Pole spacing	150	150	polesp
456	Underground percent	35.00%		ugfrac
457	Buried percent	50.00%		burfrac
458	Aerial percent	0.15		airfrac
459				
460	Call Attempts & DEMs			
461				
462	Call Attempts			
463	Local	1		CALocal
464	IntraLata Intrastate	2		CARaRa
465	InterLata Intrastate	3		CAErRa
466	InterLata Interstate	4		CaErEr
467	Call Completion Fraction	0.70		CallComp
468				
469	DEMs			
470	Local	1		DEMsLocal
471	Intrastate	3		DEMsIntra
472	Interstate	5		DEMsInter
473	Local bus/res DEMs	1.1	1.1	LocalDF
474	Intrastate bus/res DEMs	2	2	IntraDF
475	Interstate bus/res DEMs	3	3	InterDF
476				
477	Line Counts			
478				
479	Residential	10	1,593,754	LCRes
480	Business	20	632,968	LCBus
481	Special Access	30	549,733	LCSA
482	Public	40	32,539	LCPub
483				
484	Cable Costs			
485	Feeder			
486	Underground			
487	Cable Size	Cost UG		
488	4200	74.25	74.25	FeedUG42
489	3600	63.75	63.75	FeedUG36
490	3000	53.25	53.25	FeedUG30
491	2400	42.75	42.75	FeedUG24
492	1800	32.25	32.25	FeedUG18
493	1200	21.75	21.75	FeedUG12
494	900	16.5	16.5	FeedUG9
495	600	11.25	11.25	FeedUG6
496	400	7.75	7.75	FeedUG4
497	200	4.25	4.25	FeedUG2
498	100	2.5	2.5	FeedUG1

User Inputs

	B	C	D	E
13	Input Name	Default	Inputs	Name
14				
499	<i>Aerial</i>			
500	Cable Size	Cost Aerial		
501	4200	74.25	74.25	FeedA42
502	3600	63.75	63.75	FeedA36
503	3000	53.25	53.25	FeedA30
504	2400	42.75	42.75	FeedA24
505	1800	32.25	32.25	FeedA18
506	1200	21.75	21.75	FeedA12
507	900	16.5	16.5	FeedA9
508	600	11.25	11.25	FeedA6
509	400	7.75	7.75	FeedA4
510	200	4.25	4.25	FeedA2
511	100	2.5	2.5	FeedA1
512				
513	<i>Distribution</i>			
514	<i>Underground</i>			
515	Cable Size	Cost UG		
516	3600	63.75	63.75	DistUG36
517	3000	53.25	53.25	DistUG30
518	2400	42.75	42.75	DistUG24
519	1800	32.25	32.25	DistUG18
520	1200	21.75	21.75	DistUG12
521	900	16.5	16.5	DistUG9
522	600	11.25	11.25	DistUG6
523	400	7.75	7.75	DistUG4
524	200	4.25	4.25	DistUG2
525	100	2.5	2.5	DistUG1
526	50	1.625	1.625	DistUG5
527	25	1.19	1.19	DistUG25
528	<i>Aerial</i>			
529	Cable Size	Cost Aerial		
530	3600	63.75	63.75	DistA36
531	3000	53.25	53.25	DistA30
532	2400	42.75	42.75	DistA24
533	1800	32.25	32.25	DistA18
534	1200	21.75	21.75	DistA12
535	900	16.5	16.5	DistA9
536	600	11.25	11.25	DistA6
537	400	7.75	7.75	DistA4
538	200	4.25	4.25	DistA2
539	100	2.5	2.5	DistA1
540	50	1.625	1.625	DistA5
541	25	1.19	1.19	DistA25
542				
543	<i>Fiber</i>			
544	<i>Underground</i>			
545	Cable Size	Cost UG		
546	216	13.1	13.1	FiberUG216
547	144	9.5	9.5	FiberUG144

	B	C	D	E
13	Input Name	Default	Inputs	Name
14				
548	96	7.1	7.1	FiberUG96
549	72	5.9	5.9	FiberUG72
550	60	5.3	5.3	FiberUG60
551	48	4.7	4.7	FiberUG48
552	36	4.1	4.1	FiberUG36
553	24	3.5	3.5	FiberUG24
554	18	3.2	3.2	FiberUG18
555	12	2.9	2.9	FiberUG12
556	Aerial			
557	Cable Size	Cost Aerial		
558	216	13.1	13.1	FiberA216
559	144	9.5	9.5	FiberA144
560	96	7.1	7.1	FiberA96
561	72	5.9	5.9	FiberA72
562	60	5.3	5.3	FiberA60
563	48	4.7	4.7	FiberA48
564	36	4.1	4.1	FiberA36
565	24	3.5	3.5	FiberA24
566	18	3.2	3.2	FiberA18
567	12	2.9	2.9	FiberA12
568				
569				
570				
571	Fill Factors			
572	Cable			
573	Distribution			
574	0-5	0.50		
575	5-200	0.55		
576	200-650	0.60		
577	650-850	0.65		
578	850-2550	0.70		
579	2550+	0.75		
580				
581	Transport Investment			
582	Local Direct Routes			
583	Terminal Investment			
584	Number of Fibers	24	24	
585	FOT capacity, DS-3s	12	12	
586	FOT fill	0.8	0.8	
587	FOT, installed	\$43,000.00	\$43,000.00	
588	Pigtails	\$60.00	\$60.00	
589	Panel	\$1,000.00	\$1,000.00	
590	EF&I, per hour	\$55.00	\$55.00	
591	EF&I units	32	32	
592				
593	Medium Investment			
594	Fraction of structure assigned to telephone	0.33		
595		0.25	0.25	
596		41	41	



User Inputs

	B	C	D	E
13	Input Name	Default	Inputs	Name
14				
597	Regenerator spacing, mi.	40	40	
598	Regenerator investment, installed	\$15,000.00	\$15,000.00	
599	Fiber Cable investment per foot	\$2.00	\$2.00	
600	Placement	\$2.00	\$2.00	
601	Splice Spacing, ft.	20000	20000	
602	Splice Cost	\$15.00	\$15.00	
603	Trenching per foot	\$45.00	\$45.00	
604	Resurfacing per foot	\$10.00	\$10.00	
605	Conduit per foot	\$4.00	\$4.00	
606	Number of tubes	2	2	
607	Manhole investment	\$5,000.00		
608	Manhole spacing	1000		
609	Buried installation per foot	\$5.00	\$5.00	
610	Pole investment	450	450	
611	Pole spacing	150	150	
612	Underground percent	35.00%		
613	Buried percent	50.00%		
614	Aerial percent	0.15		
615				
616				
617	Transport Investment			
618	IntraLATA direct routes			
619	Terminal Investment			
620	Number of Fibers	24	24	
621	FOT capacity, DS-3s	12	12	
622	FOT fill	0.8	0.8	
623	FOT, installed	\$43,000.00	\$43,000.00	
624	Pigtails	\$60.00	\$60.00	
625	Panel	\$1,000.00	\$1,000.00	
626	EF&I, per hour	\$55.00	\$55.00	
627	EF&I units	32	32	
628				
629	Medium Investment			
630	Fraction of structure assigned to telephone	0.33		
631	Fraction of structure shared with feeder	0.25	0.25	
632				
633	Regenerator spacing, mi.	40	40	
634	Regenerator investment, installed	\$15,000.00	\$15,000.00	
635	Fiber Cable investment per foot	\$2.00	\$2.00	
636	Placement	\$2.00	\$2.00	
637	Splice Spacing, ft.	20000	20000	
638	Splice Cost	\$15.00	\$15.00	
639	Trenching per foot	\$45.00	\$45.00	
640	Resurfacing per foot	\$10.00	\$10.00	
641	Conduit per foot	\$4.00	\$4.00	
642	Number of tubes	2	2	
643	Manhole investment	\$5,000.00		
644	Manhole spacing	1000		
645	Buried installation per foot	\$5.00	\$5.00	

	B	C	D	E
13	Input Name	Default	Inputs	Name
14				
646	Pole investment	450	450	
647	Pole spacing	150	150	
648	Underground percent	35.00%		
649	Buried percent	50.00%		
650	Aerial percent	0.15		
651				
652				
653	<b>Transport Investment</b>			
654	Access Direct Routes			
655	Terminal Investment			
656	Number of Fibers	24	24	
657	FOT capacity, DS-3s	12	12	
658	FOT fill	0.8	0.8	
659	FOT, installed	\$43,000.00	\$43,000.00	
660	Pigtails	\$60.00	\$60.00	
661	Panel	\$1,000.00	\$1,000.00	
662	EF&I, per hour	\$55.00	\$55.00	
663	EF&I units	32	32	
664				
665	<i>Medium Investment</i>			
666	Fraction of structure assigned to telephone	0.33		
667				
668				
669	Regenerator spacing, mi.	40	40	
670	Regenerator investment, installed	15000	15000	
671	Fiber Cable investment per foot	2	2	
672	Placement	2	2	
673	Splice Spacing, ft.	\$20,000.00	\$20,000.00	
674	Splice Cost	\$15.00	\$15.00	
675	Trenching per foot	\$45.00	\$45.00	
676	Resurfacing per foot	10	10	
677	Conduit per foot	\$4.00	\$4.00	
678	Number of tubes	\$2.00	\$2.00	
679	Manhole investment	\$5,000.00		
680	Manhole spacing	\$1,000.00		
681	Buried installation per foot	5	5	
682	Pole investment	\$450.00	\$450.00	
683	Pole spacing	150	150	
684	Underground percent	\$0.35		
685	Buried percent	0.5		
686	Aerial percent	0.15		

## ARMIS Expense

Mobase

D	E	F	G	H
1	1995 COMPANY NAME:	swmo		
2				
3	OTHER TAXES & UNCOLLECTIBLES CALCULATION	EXPENSES		NET REVENUES
4				
5	7230 OPERATING STATE & LOCAL INCOME TAX-NET	13,821		
6	7240 OPERATING OTHER TAXES	87,726		
7	5300 UNCOLLECTIBLE REVENUES			12,339
8	530 NET REVENUES			1,475,607
9	GROSS REVENUES (5300 + 530)			1,487,946
10	UNCLL/GROSS REV			0.008293
11	(5300+4040(da..dg))/(5081+520+525) UNCLL RETAIL RATE			1.09%
12	(4040(p))/(5082..5084) UNCLL WHOLESALE RATE			0.27%
13				
14	PLANT SPECIFIC OPERATIONS EXPENSES	A. EXPENSES	B. INVESTMENTS	C. EXP/INV (A/B)
15	TPIS GENERAL SUPPORT			
16	2111 LAND			0.000000
17	2121 BUILDINGS			0
18	TOTAL LAND & BUILDINGS			-0.004425
19				
20	2112 MOTOR VEHICLES			0.029686
21	2113 AIRCRAFT	0	0	#VALUE!
22	2114 SPECIAL PURPOSE VEHICLES	0	0	#VALUE!
23	2115 GARAGE WORK EQUIPMENT			0.072993
24	2116 OTHER WORK EQUIPMENT			0.004630
25	2122 FURNITURE			-0.132164
26	2123 OFFICE EQUIPMENT			0.007434
27	2124 GENERAL PRUPOSE COMPUTERS			-0.00851159
28	2110 TOTAL LAND & SUPPORT ASSETS	(6,859)	1,182,930	-0.005798314
29				
30	TPIS - CENTRAL OFFICE SWITCHING			
31	-			
32	2211 ANALOG ELECT SWITCH			
33	2212 DIGITAL ELECTRONIC SWITCHING			
34	2220 OPERATOR SYSTEMS	1,834	23,087	0.079404252
35				
36	TPIS - CENTRAL OFFICE TRANSMISSION			
37	-			
38	2232 CIRCUIT EQUIPMENT			
39	2230 TRANSMISSION			0.026422036
40				
41	TPIS - INFORMATION ORIG/TERM			
42	-			
43	2311 STATION APPARATUS			
44	2321 CUSTOMER PREMISES WIRING		0	#VALUE!

## ARMIS Expense

Mobase

	D	E	F	G	H
45	2341	LARGE PRIVATE BRANCH EXCHANGE			
46	2351	PUBLIC TEL TERMINAL EQUIPMENT			
47	2362	OTHER TERMINAL EQUIPMENT			
48	2310	TOTAL INFORMATION ORIG/TERM	63,072	79,103	0.797340177
49					
50	TPIS - CABLE & WIRE FACILITIES				
51	-	-			
52	2411	POLES			
53	2421	AERIAL CABLE			
54	2422	UNDERGROUND CABLE			
55	2423	BURIED CABLE			
56	2441	CONDUIT SYSTEMS			
57	2410	TOTAL CABLE & WIRE FACILITIES	114,625	1,868,520	0.061345
58					
59	240	TOTAL TPIS(BEFORE AMORTIZABLE ASSETS)	228,959	4,799,434	0.047705417
60		(2110+2210+2220+2230+2310+2410)			
61					
62	PLANT NON-SPECIFIC OPERATIONS EXPENSES		A. EXPENSES	B. TPIS INVESTMENT	C. EXP/INV (A/B)
63	=	=	=	=	=
64	6512	PROVISIONING EXPENSES	342	4,799,434	0.000071
65					
66	6531	POWER EXPENSES		4,799,434	0.000991
67	6532	NETWORK ADMINISTRATION	12,318	4,799,434	0.002567
68	6533	TESTING		4,799,434	0.007653
69	6534	PLANT OPERATIONS ADMINISTRATION	29,593	4,799,434	0.006166
70	6535	ENGINEERING	21,137	4,799,434	0.004404
71	6540	ACCESS EXPENSE	49,094	4,799,434	0.010229123
72	6530	TOTAL NETWORK OPERATIONS EXPENSES	104,534	4,799,434	0.021780485
73					
74	NETWORK SUPPORT FACTOR CALCULATION		A. EXPENSES	B. CABLE & WIRE INV	C. EXP/INV (A/B)
75	=	=	=	=	=
76	2112	MOTOR VEHICLES	1,120		
77	2113	AIRCRAFT	0		
78	2114	SPECIAL PURPOSE VEHICLES	0		
79	2115	GARAGE WORK EQUIPMENT	20		
80	2116	OTHER WORK EQUIPMENT	143		
81		TOTAL NETWORK SUPPORT (EXCL 2113)	1,283	1,868,520	0.00068664
82					
83	CUSTOMER OPERATIONS EXPENSES		A. EXPENSES	B. NET REVENUES	C. EXP/NET REV (A/B)
84	=	=	=	=	=
85	6611	PRODUCT MANAGEMENT	7,598		CALC
86	6612	SALES	28,231		CALC
87	6613	PRODUCT ADVERTISING	10,108		CALC
88	6610	TOTAL MARKETING EXPENSES	45,937		CALC

## ARMIS Expense

Mobase

	D	E	F	G	H
89					
90	6621	CALL COMPLETION SERVICE	12,299		CALC
91	6622	NUMBER SERVICES	34,788		CALC
92	6623	CUSTOMER SERVICES	87,530		CALC
93	6620	TOTAL SERVICES EXPENSES	134,617		CALC
94					
95	700	TOTAL CUSTOMER OPERATIONS EXPENSE	180,554		CALC
96		(6610 + 6620)			
97					
98	CORPORATE OPERATIONS EXPENSES		A. EXPENSES	B. REVENUES	C. EXP/REV (A/B)
99	=	=	=	=	=
100	6711	EXECUTIVE	9,139		CALC
101	6712	PLANNING	1,684		CALC
102	6710	TOTAL EXECUTIVE & PLANNING	10,803		CALC
103					
104	6721	ACCOUNTING & FINANCE	10,859		CALC
105	6722	EXTERNAL RELATIONS	17,669		CALC
106	6723	HUMAN RESOURCES	16,267		CALC
107	6724	INFORMATION MANAGEMENT	36,044		CALC
108	6725	LEGAL	4,206		CALC
109	6726	PROCUREMENT	4,107		CALC
110	6727	RESEARCH & DEVELOPMENT	6,888		CALC
111	6728	OTHER GENERAL & ADMINISTRATIVE	31,093		CALC
112	6720	TOTAL GENERAL & ADMINISTRATIVE	127,134		CALC
113					
114	710	TOTAL CORPORATE OPERATIONS EXPENSE	137,937		CALC
115		(6710 + 6720 + 6790)			
116					
117	720	TOTAL OPERATING EXPENSES			CALC
118					
119		DEM - LOCAL	0		
120		DEM - INTRASTATE	0		
121		DEM - INTERSTATE	0		
122					
123		MESSAGES - INTRALATA	177,143		
124		MESSAGES - INTERLATA	905,832		
125					
126	4308 (EC)	LOCAL CALL ATTEMPTS	9,394,922		
127					
128		LINES - BUSINESS	632,968		
129		RESIDENTIAL	1,593,754		
130		PUBLIC	32,539		
131		SPECIAL	549,733		
132		TOTAL	2,809,037		

## ARMIS Expense

Mobase

	D	E	F	G	H
133	5081	END USER		109,572	
134	5082	SWITCHED ACCESS		162,659	
135	5083	SPECIAL ACCESS		81,145	
136		TOTAL INTER ACCESS		353,376	
137					
138	5084	END USER			
139	5084	SWITCHED ACCESS			
140	5084	SPECIAL ACCESS		73,279	
141		STATE ACCESS		73,279	
142					
143		TOTAL ACCESS REVENUES		426,655	
144					
145		LD MESSAGE REVENUE			
146	5100	INTERSTATE MESSAGE			
147	5100	INTRASTATE MESSAGE			
148	5100	INTERSTATE CALLING PLAN			
149	5100	INTRASTATE CALLING PLAN			
150		LD MSG REV (CLASS A)		147,553	
151					
152		UNIDIRECTIONAL LD			
153	5110	INTERSTATE			
154		INTRASTATE			
155		TOTAL		544	
156					
157					
158					
159					
160	5120	LD PRIVATE NETWORK		7,534	
161					
162		OTHER LD			
163	5160	INTERSTATE			
164		INTRASTATE			
165		TOTAL		6,037	
166					
167		TOTAL LD NETWORK REVENUE			
168		INTERSTATE			
169		INTRASTATE			
170		TOTAL		161,668	
171					
172		BASIC LOCAL SERVICE			
173	5001	BASIC AREA		492,345	
174	5002	OPTIONAL EXTEND AREA		48,557	
175	5003	CELLAR MOBIL		10,321	
176	5004	OTHER MOBIL SVC		12	

## ARMIS Expense

Mobase

	D	E	F	G	H
177		TOTAL BASIC SVC		551,235	
178					
179		PUBLIC TELEPHONE REVENUE			
180	5010	LOCAL PUBLIC MSG			
181		UNIVERSAL			
182		PB EXCHANGE IX CARRIER			
183		CC COINLESS			
184		PUBLIC EXH			
185		SEMI-PUBLIC			
186		OTHER PUBLIC PHONE REV			
187		TOTAL PUBLIC PHONE REVENUE		29,723	
188					
189					
190					
191					
192	5040	LOCAL PRIVATE LINE		16,661	
193					
194		CUSTOMER PREMISE			
195	5050	STATION APP			
196		CUSTOMER PREMISE WIRING			
197		TOTAL CUSTOMER PREMISES		200	
198					
199		OTHER LOCAL EXCHANGE			
200	5060	CO FEATURES			
201		INFO TRANSPORT			
202		DIRECTORY ASSIST			
203		INTERCEPT SRVC			
204		OTHER LOC EXCH			
205		TOTAL OTHER		154,432	
206					
207		TOTAL LOCAL NETWORK SRVC REVENUE			
208		INTERSTATE			
209		INTRASTATE		752251	
210					
211		TOTAL REVENUE		1340574	
212					
213	CAPITAL STRUCTURE PARAMETERS				
214		DEBT/EQUITY RATIO	DEBT/EQUITY RATIO	DEBT/EQUITY RATIO	DEBT/EQUITY RATIO
215		COST OF DEBT			
216		COST OF EQUITY			
217			BALANCE SHEET	ACCRUEL	DEPR LIFE
218			43-02, B-1	43-02, B-5	(ASSUMING
219			AVG=(ab+af)/2	(col 2C)	STRAIGHT LIFE)
220			A	B	C = (A/C)

Exhibit 3

## ARMIS Expense

Mobase

	D	E	F	G	H
221		-	-	-	-
222		ECONOMIC LIFE			
223	(2422,21,22,23,41)	FEEDER			
224	(2422,21,22,23,41)	DISTRIBUTION			
225	2121	BUILDINGS			
226	2232	DLC ELECTRONIC EQUIPMENT			
227	2212	EO SWITCHING			
228	2212	TANDEM SWITCHING			
229	2220	OS POSITIONS			
230	2220	OS TANDEM			
231	2232	TRANSMISSION SYSTEMS			
232	2351	PUBLIC TELEPHONE EQUIPMENT			
233	2122,2124	FURNITURE + GP COMPUTERS			
234					
235					
236	DATA SOURCE		sum check		
237	ARMIS 4303ARMIS 4303ARMIS 4303	Jan 1995 to Dec 1995Jan 1995 to Dec 1995	495495495495495495	495495495495495495495495495495495495495495495	
238	ARMIS 4304	JAN 1995 TO DEC 1995	9010	9010	
239	ARMIS 4308	swmo95	(EJ)	(EJ)	
240	DEM	No DEM data for 1995			
241					
242					
243					
244	=	=	=	=	=
245					
246	ARMIS 4308	swbx95	(EJ)	(EJ)	
247	DEM	No DEM data for 1995			
248					
249					
250					
251	=	=	=	=	=



## **HATFIELD MODEL SENSITIVITY ANALYSIS LOOP COST - SWBT TEXAS**

### **Purpose of the Sensitivity Analysis**

The costs for loops calculated by the Hatfield model and Southwestern Bell Telephone (SWBT) cost studies are significantly different - \$11.62 versus \$18.06 (SWBT - forward looking economic cost studies; SWBT actual loop costs are \$27.81).<sup>1</sup> Differences in cost estimates are caused by two factors:

*Differences in the structure of cost models.* These may include,

*Differences in costing methods* (e.g., computing plant costs per unit of maximum useable capacity versus per unit of expected, average utilization).

*Differences in cost elements* (e.g., including main distributing frame costs with end office switching costs versus loop costs).

*Differences in the type of source data* used for costing (e.g., pole and conduit resource costs versus factors which express pole and conduit investment relative to cable investment).

*Differences in input (source data) to the cost models* (e.g., construction cost data, mix of plant types, plant fill factors and others.)

Sensitivity analyses typically are used to evaluate the effect of changes in input to a cost model on the model result. For example, the most important input values to a cost model can be identified by varying input values to the model, one at a time, and determining which input values cause the greatest change in the result.

Sensitivity analyses also can be used to isolate the effect of differences in input between two cost models. In this case, the input from one model is used in the other, preferably one at a time, to determine the effect of input value differences on model results.

If the two models produce the same or similar results, having modified all input to be the same, then it is reasonable to conclude any differences in the structure of the models are immaterial. If the models continue to produce significantly different results, differences in

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<sup>1</sup> The loop monthly costs include loadings for "common costs." The Hatfield model cost includes a loading of 10% of direct costs for "variable overheads." The SWBT cost includes a loading of 15.47% of direct costs for prospective joint and common costs. One of the sensitivity analyses determines the change in the Hatfield model cost from substituting SWBT's 15.47% loading for Hatfield's 10% loading.

model structure are significant. Changes in the structure of one model would have to be made to identify the effect of structural differences on model results. Structural changes, though, may not be practical depending on the size and complexity of the cost models.

The sensitivity analyses of the Hatfield model have three purposes: First, to determine (to the extent possible) the effect on loop costs of using SWBT input data in the Hatfield model. Secondly, to identify the most important differences in input values. Third, to conclude whether significant structural differences in the Hatfield and SWBT models remain which cause differences in cost estimates.

### Results of Unbundled Sensitivity Analyses

The results of fifteen sensitivity analyses run on the Hatfield model are illustrated below in Figure 1.

Figure 1

## **HATFIELD MODEL SENSITIVITY ANALYSIS** **LOOP COST - SWBT TEXAS**

<b><u>CHANGE</u></b>	<b>Cumulative Change *</b>	
	<b>Loop Cost</b>	<b>Cumulative Difference</b>
Base Hatfield Run	\$11.62	\$0.00
1. Staff Changes	\$17.41	\$5.79
2. SWBT Depreciation/Capital Costs	\$20.89	\$9.27
3. SWBT Overhead Factor	\$21.62	\$10.00
4. SWBT Fill Factors	\$22.07	\$10.45
5. SWBT Structure Assign to Telephone	\$23.82	\$12.20
6. SWBT Cable Premise Term./SAI Costs	\$24.68	\$13.06
7. SWBT Switching Costs	\$24.50	\$12.88
8. SWBT Network Operations & CO Expense Factors	\$25.12	\$13.50
9. ARMIS Adjustments	\$24.36	\$12.74
10. SWBT Signalling Parameters	\$24.34	\$12.72
11. SWBT Miscellaneous Expense Factors	\$23.95	\$12.33
12. SWBT Wirecenter parameters	\$23.97	\$12.35
13. SWBT IO and Tandem parameters	\$23.64	\$12.02
14. Miscellaneous Items	\$23.28	\$11.66
15. SWBT Cable Mix	\$26.53	\$14.92

NOTES: \* THE CUMULATIVE CHANGE **CAN NOT** BE DETERMINED BY SUMMING THE AMOUNT OF CHANGE ASSOCIATED WITH INDIVIDUAL CHANGES DUE TO THE INTERACTIONS OF THE CHANGED VARIABLES.

*Differences in Input*

The changes made to the Hatfield Model are indicated on the table below by reference to the line number. The actual values for all of the changes for the cumulative run # 15 are shown on Exhibit 1. The changes are divided into two basic categories, one for those change recommended by the Texas PSC Staff and additional changes recommended by SWBT. The changes recommended by the Texas Staff are shown on Exhibit 2.

<b>CHANGE</b>	<b>Lines Changed</b>
<b>Base Hatfield Run</b>	
1. Staff Changes	17-29,32-36,41,68-73, 80,376,385,401,374, 377, 378,383,384,386,387, 335-337,340-342, 438, 55,391
2. SWBT Depreciation/Capital Costs	17-29, 32-36
3. SWBT Overhead Factor	41
4. SWBT Fill Factors	68-73, 80, 376,385,401
5. SWBT Structure Assign to Telephone	335-337,340-342,438
6. SWBT Cable Premise Term./SAI Costs	488-498, 501-511, 516-527, 530-541, 546-554, 558-567, 328-330, 346-356, 359-369
7. SWBT Switching Costs	81, 83, 99-101, 103-105, 11
8. SWBT Network Operations & CO Expense Factors	47, 48
9. ARMIS Adjustments	ARMIS Data
10. SWBT Signalling Parameters	395, 397-399, 402, 403, 407
11. SWBT Miscellaneous Expense Factors	42-46, 51, 52
12. SWBT Wirecenter parameters	143-147, 157-161, 164- 168
13. SWBT IO and Tandem parameters	114-116, 117-119, 123-126, 131, 132
14. Miscellaneous Items	414, 415, 417, 420, 421, 431, 456-458,467, 470-472
15. SWBT Cable Mix	173-178, 181-186, 189-194, 221-226, 229-234, 237-242, 277-282, 285-290, 293-298

The various inputs changes can be categorized into the groups shown below:

***Depreciation Lives/Capital Cost***

The Hatfield model uses plant service lives for cable and wire facilities and circuit equipment which are longer than those expected by SWBT. In addition, the Hatfield model does not recognize net salvage values for cable and wire facilities. To adjust the Hatfield model input, the depreciation lives were all recomputed to produce the same depreciation rate as the economic lives with net salvages

expected by SWBT. These lives then were substituted for those in the Hatfield model.

Hatfield model values for debt ratio, cost of debt and the cost of money were changed to those used by SWBT. Since SWBT's cost of money figure for Texas regulatory purposes is slightly higher than the Hatfield model (10.93% versus 10.01%), the effect was to raise monthly loop costs. For the model to be used in the interstate jurisdiction, further adjustments would be necessary to reflect the FCC authorized cost of money as identified below:

	HATFIELD	FCC
Debt Percent	42%	44.2%
Cost of Debt	7.7%	8.8%
Cost of Equity	11.9%	13.2%

The combination of corrected economic depreciation lives and realistic capital cost information is a major contributor to the difference between the incorrect Hatfield Model and SWBT cost study information or actual costs.

#### *Overhead Factor*

One of the most important changes was to increase the "variable overhead" factor from 10% to 15.47%. This increases the level of common costs allocated to the monthly loop cost.

#### *Fill Factors*

Hatfield fill factors for distribution cable and digital loop carrier systems were modified to yield the same effective utilization levels as used in the SWBT study. Although feeder cable fill factors can be modified in the Hatfield model, it was not possible to compute the effective utilization for feeder cable in the Hatfield model. Consequently, it was not possible to adjust feeder cable fill to match the SWBT value. Lowering fill factors for distribution cable and digital loop carrier systems to SWBT levels raises the Hatfield monthly loop cost.

#### *Structures Assigned to Telephone*

Input to the Hatfield model was changed to reflect that no conduit or buried cable placement costs are attributed to other utilities. The portion of aerial cable attributed to other utilities was reduced from 67% to 50% to reflect the amount of poles used in SWBT's study. The net effect of these changes increased the overall loop cost. While the Staff adjustment increased the buried cable telephone assignment to 100% and SWBT's adjustment increased the underground cable to 100% the aerial percentage was decreased to 50% The estimated combined effect produces an estimated 30% increase in the cost of the

loop. This is a major difference between the Hatfield Model and SWBT cost studies or actual data.

### *Construction Costs*

A key input to the calculation of monthly loop costs is the cost of material, equipment, labor, etc. used to construct loop facilities. The four most important categories of construction cost input for loops are cable costs per foot, buried cable placement labor costs, pole and conduit cost data, and digital loop carrier cost data. SWBT cost data for these categories were substituted for Hatfield model data. Other construction cost data, such as serving area interface (SAI) also were changed. Other non-loop related costs were also changed in this analysis. Although these non-loop cost changes do not directly change the calculated loop investment values, it does impact the allocation of the network and overhead related expenses in the Hatfield Model.

### *ARMIS Input<sup>2</sup>*

Two adjustments were made to the ARMIS investment and expense input to the Hatfield model. First, embedded investments were restated on a higher, current cost basis. Since network expenses are computed based on the ratio of expenses to investment, this had the effect of lowering network expense factors and the resulting network expenses. The second adjustment was to eliminate the effect of the compensable property adjustment, which in many cases is reflected in Texas ARMIS reported expenses. This is necessary because that while the expense, return and tax amounts are charged to the benefiting state, the investment remains on the host state's reports. Thus, any ratio (i.e. network expense factors) developed with investment in the denominator must eliminate the compensable property adjustment from the numerator.<sup>3</sup>

### *Mix of Cable Types*

In this sensitivity analysis, the proportions of prospective aerial, buried and underground cable plant were changed in the Hatfield model to those used by SWBT. For distribution feeder and fiber cable, there was a reduction in the use of aerial cable and increases in buried and underground cable.

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<sup>2</sup> ARMIS Inputs (and other loading factors) were adjusted to reflect the differences in the development of Annual Cost Factors.

<sup>3</sup> Expense amounts on the ARMIS reports are net of transfers to other states for expenses and capital costs on plant in Missouri used to provide services to other states. Since capital cost transfers are charged to expense accounts, the effect is to lower the expense amounts below the level of actual expenses to repair and maintain associated plant. In some cases, expense account balances actually are negative. The Hatfield study does not recognize this.

### Differences in the Structure of the Cost Models

Since the cumulative result of the sensitivity analyses (\$26.53) is substantially different from SWBT's monthly cost estimate \$18.06 (including joint and common costs), this indicates there are significant structural differences in the models. Some of these include the way in which distribution cable distances are calculated, the method for computing poles and conduit investment, the exclusion of the main distributing frame from loop costs in the Hatfield model, and the way in which premises termination investment is calculated.

### Conclusions

Based on the sensitivity analyses, the most significant input value differences between the SWBT and Hatfield models for loop costs appear to be in the areas of construction costs, especially digital loop carrier costs, depreciation lives/capital costs, and the assignment of structures investment to other utilities. Beyond these differences in input, there are significant differences in model structure which contribute to differences in loop costs.

Hatfield Model Sensitivity Analysis  
SWBT - Texas

Exhibit 1  
User Inputs

	B	C	D	E
12				Variable
13	Input Name	Default	Inputs	Name
14				
15	<b>Cost of Capital Factors</b>			
16	<b>Depreciation Lives</b>			
17	Loop Distribution	20	12.4	DistLife
18	Loop Feeder	20	12.2	FeedLife
19	Loop Concentrator	10	5	ConcLife
20	Wire Center	37	37.6	WireLife
21	End Office Switching	14.3	9.2	EOLife
22	Tandem Switching	14.3	9.2	TandLife
23	Transport Facilities	19	24.8	TransLife
24	Operator Systems	8	13	OpLife
25	STP	14	9.2	STPLife
26	SCP	14	9.2	SCPLife
27	Links	19	13	LinkLife
28	Public Telephones	9	7.6	PubLife
29	General Support	7	8.7	GenLife
30				
31	<b>Cost of Capital</b>			
32	Debt Percent	45.00%	42.00%	DebtP
33	Cost of Debt	7.70%	8.07%	DebtCost
34	Cost of Equity	11.90%	13.00%	EquityCost
35	Equity Percent	55.00%	58.00%	
36	Overall Cost of Capital	10.01%	10.93%	
37				
38				
39	<b>Misc Expense Factors</b>			
40				
41	Variable Overhead Factor	10.00%	15.47%	VarOvhd
42	Federal Income Tax Rate	40.00%	35.00%	FITRate
43	Other Taxes Factor	5.00%	5.88%	OtherTax
44	Operating State and Local Income Tax Fa	1.00%	0.95%	StateIT
45	Billing/Bill Inquiry per line per month	\$1.22	\$2.37	Billing
46	Directory Listing per line per month	\$0.15	\$0.24	Directory
47	Forward-Looking Network Operations Fac	70.00%	100.00%	NetOps
48	Central Office Switching Expense Factor	2.69%	9.86%	COSwitch
49	End Office Traffic-Sensitive Fraction	70.00%	70.00%	EOTraffic
50	per-line Monthly LNP Cost	\$0.25	\$0.25	LNP
51	alternative CO switching factor	0.0269	0.0986	ACOSF
52	alternative circuit equipment factor	0.0153	0.0294	ACEF
53	Carrier-carrier customer service per line p	\$1.56	\$1.56	CarCar
54	NID expense per line per year	\$3.00	\$3.00	NIDExp
55	Switc line circuit offset per DLC line	\$35.00	\$8.75	CircOffs
56				

Hatfield Model Sensitivity Analysis  
SWBT - Texas

Exhibit 1  
User Inputs

	B	C	D	E
12				Variable
13	Input Name	Default	Inputs	Name
14				
57	<b>Fill Factors</b>			
58	Cable			
59	Feeder			
60	0-5	0.65	0.65	Feeder0
61	5-200	0.75	0.75	Feeder5
62	200-650	0.80	0.80	Feeder200
63	650-850	0.80	0.80	Feeder650
64	850-2550	0.80	0.80	Feeder850
65	2550+	0.80	0.80	Feeder2550
66				
67	<i>Distribution</i>			
68	0-5	0.50	0.53	Dist0
69	5-200	0.55	0.53	Dist5
70	200-650	0.60	0.53	Dist200
71	650-850	0.65	0.53	Dist650
72	850-2550	0.70	0.53	Dist850
73	2550+	0.75	0.53	Dist2550
74				
75	<b>EO Switching Parameters</b>			
76				
77	Busy hour call attempts, residential	1.3	1.3	BHCAR
78	Busy hour call attempts, business	3.5	3.5	BHCAB
79	Switch Maximum Line Size	100,000	100,000	MaxLines
80	Switch Maximum Line Fill	0.8	0.8	MaxLineFill
81	Switch Maximum Processor Occupancy	0.9	0.85	MaxProc
82	Processor Feature Loading Multiplier	1	1	FeatureMult
83	Switch Installation Multiplier	1.1	1	InstallMult
84				
85	<i>Switch Parameters</i>			
86	Switch real-time limit, BHCA			
87	1 - 1,000	10,000	10,000	BHCA1
88	1,000 - 10,000	50,000	50,000	BHCA2
89	10,000 - 40,000	200,000	200,000	BHCA3
90	40,000+	600,000	600,000	BHCA4
91				
92	Switch traffic limit, BHCCS			
93	1 - 1,000	10,000	10,000	BHCCS1
94	1,000 - 10,000	50,000	50,000	BHCCS2
95	10,000 - 40,000	500,000	500,000	BHCCS3
96	40,000+	1,000,000	1,000,000	BHCCS4
97				



Hatfield Model Sensitivity Analysis  
SWBT - Texas

Exhibit 1  
User Inputs

	B	C	D	E
12				Variable
13	Input Name	Default	Inputs	Name
14				
98	<i>Switch cost points</i>	lines		
99	Low line size	2,782	7,703	LowSize
100	Mid line size	11,200	21,062	MidSize
101	High line size	80,000	53,653	HighSize
102		cost/line		
103	Low line size	\$220.00	\$236.00	LowCost
104	Mid line size	\$86.00	\$248.00	MidCost
105	High line size	\$59.00	\$232.00	HighCost
106				
107	Residential Holding Time Multiplier	1.00	1.00	resHT
108	Business Holding Time Multiplier	1.00	1.00	busHT
109	Busy Hour fraction of daily usage	0.10	0.10	BHF
110	Annual to daily usage reduction factor	270.00	319.00	UsRed
111				
112	<b>Interoffice and Tandem Parameters</b>			
113				
114	Operator Traffic Fraction	0.02	0.0245	OpFrac
115	Total Interoffice Traffic Fraction	0.65	0.64	InterFrac
116	Direct-Routed Fraction of Local Interoffice	0.98	0.34	DirectFrac
117	Maximum Trunk Occupancy, CCS	27.5	22	TrunkCCS
118	Trunk Termination Investment, per end	\$100	\$470	TermInv
119	Average Direct Route Distance, miles	10	9	Miles
120	Average Trunk Usage Fraction	0.3	0.3	TrunkFrac
121				
122	<i>Toll traffic inputs</i>			
123	Tandem-routed % of total intraLATA traffic	0.2	0.68	tandLATA
124	Average direct intraLATA route distance, m	25	32	LATAdist
125	Tandem-routed % of total interLATA traffic	0.2	0.37	tandAccess
126	Average direct access route distance, mi.	15	17	Accessdist
127				
128				
129	<i>Tandem Switching parameters</i>			
130	real time limit, BHCA	1,500,000	1,500,000	tandBHCA
131	port limit, trunks	120,000	80,000	portlimit
132	common equipment investment	\$1,000,000	\$925,000	tandcominv
133	maximum trunk fill	0.8	0.8	maxtrunkfill
134	maximum real time occupancy	0.9	0.85	tandmaxocc
135	common equipment intercept factor	0.25	0.25	tandintercept
136				